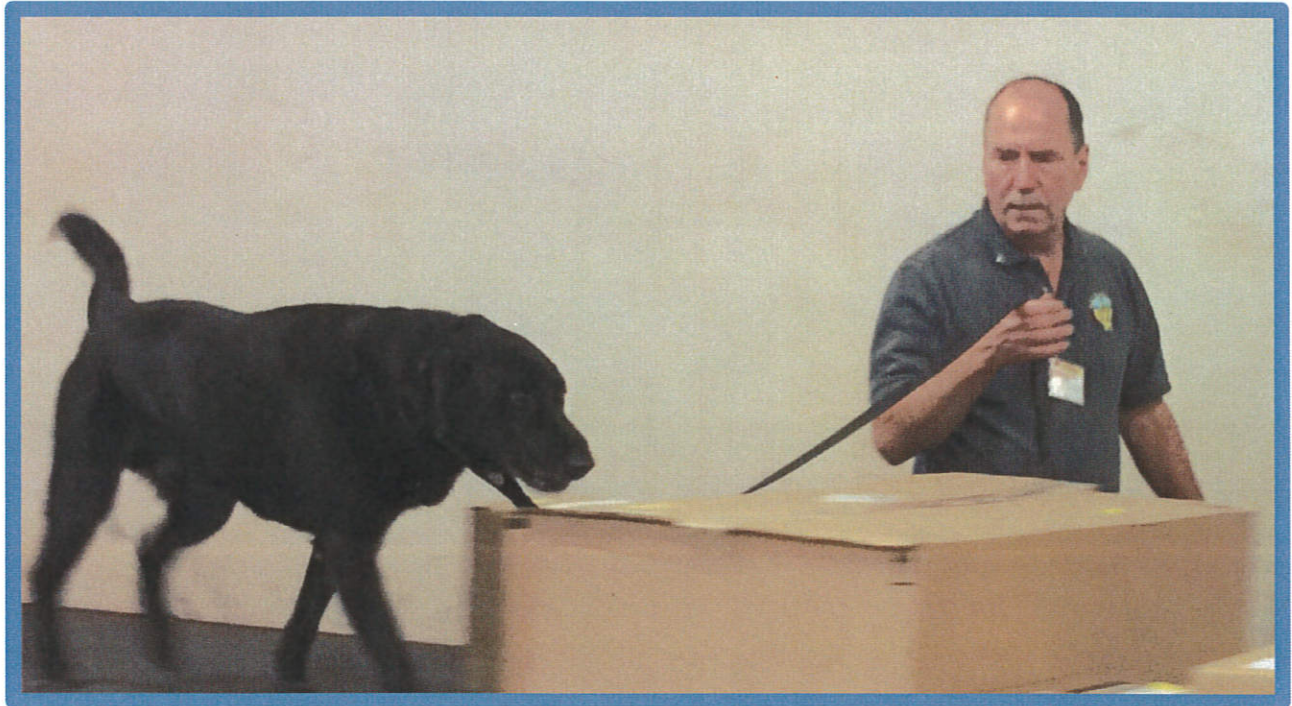


# **CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE**



## **CALIFORNIA AGRICULTURE DETECTOR DOG TEAM PROGRAM**

### **Annual Report**

**July 1, 2016 - June 30, 2017**

**Pictured:** San Diego County Canine Team Ted Olsen and Drake. The team has been together since 2009. They have performed over 1,500 terminal inspections and alerted on more than 1,400 unmarked parcels during their career. Both handler and canine will retire together in January 2018.

Picture taken by Ed Williams, Los Angeles County.

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## PURPOSE OF COOPERATIVE AGREEMENT #16-8506-1165-CA

The purpose of cooperative agreement USDA #16-8506-1165-CA is to implement the use of the California Agriculture Detector Dog Teams (herein referenced as California Dog Teams) to enhance inspection and detection of pests associated with plant products entering California via parcel delivery facilities and airfreight terminals. By preventing the introduction of pests, the California Dog Teams play an important role in protecting agriculture, our natural habitats, and our economy.

## WORK PLAN ACTIVITIES PERFORMED BY CDFA

The CDFA oversaw and provided guidance for the statewide California Dog Team Program and distributed funds through cooperative agreements to County Agricultural Commissioners (CAC) for the purposes of fulfilling California Dog Team activities as outlined in the CDFA/CAC cooperative agreement. The CDFA verified that all expenses approved for payment to county agricultural commissioner cooperators were legitimate expenses as outlined in the CDFA/CAC cooperative agreement. The CDFA acted as the liaison between the CACs and the National Detector Dog Training Center (NDDTC) and was responsible for communicating significant pest finds and smuggling information to the USDA/Smuggling Interdiction and Trade Compliance (SITC).

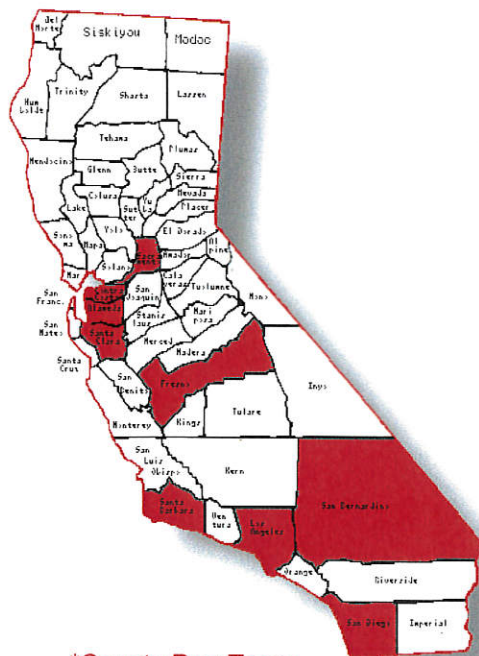
## WORK PLAN ACTIVITIES PERFORMED BY COUNTY AGRICULTURAL COMMISSIONERS

The California Dog Teams and inspectors were distributed as described in **Table 1** and in the map\* below. Nine of the fourteen California Dog Teams worked parcel facilities for the full reporting period (July 1, 2016 – June 30, 2017): Alameda (1 team), Contra Costa (2 teams), Fresno (1 team), Los Angeles (3 teams), Sacramento (2 teams), San Bernardino (1 team), San Diego (2 teams), Santa Barbara (1 team), Santa Clara (1 team), and Yolo (inspectors only).

Teams are based in a single county but work regionally to cover over 200 facilities in 32 of 58 California counties, or 56.4 percent of the total square mileage in California.

**TABLE 1: Distribution of CA Dog Teams**

County	Area Covered	# of Teams
Alameda	Alameda County	1
Contra Costa	San Francisco Bay Area	2
Fresno	Fresno County	1
Los Angeles	Los Angeles County	3
Sacramento	Sacramento Valley	2
San Bernardino	Inland Empire Area	1
San Diego	San Diego County	2
Santa Barbara	Santa Barbara County	1
Santa Clara	South Bay Area	1
Yolo	Sacramento Valley	0



\*County Dog Team locations are shaded.



## REPLACEMENTS AND ADDITIONS

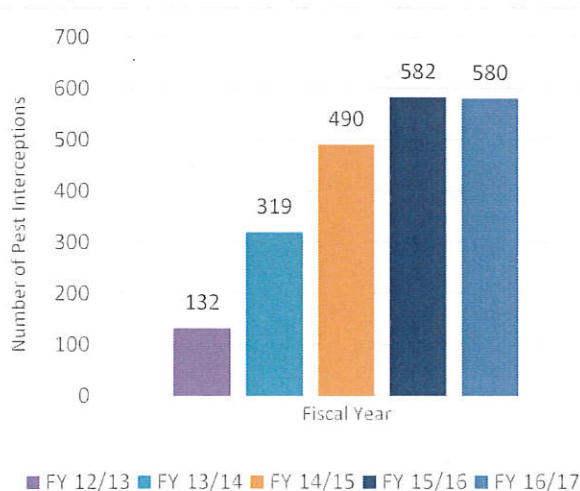
Last fiscal year it was necessary to replace four teams due to retirements and to adjust handler locations to maximize area coverage. The new handlers began working in FedEx and UPS facilities this fiscal year and started training in the USPS facilities in May 2017. An additional team was added to Los Angeles County and began working in FedEx and UPS facilities in December 2016. Unfortunately, Sacramento County lost their new team when the handler separated from county employment; however, the team was replaced in May 2017.

## SUMMARY OF DOG TEAM INTERCEPTIONS AT PARCEL FACILITIES

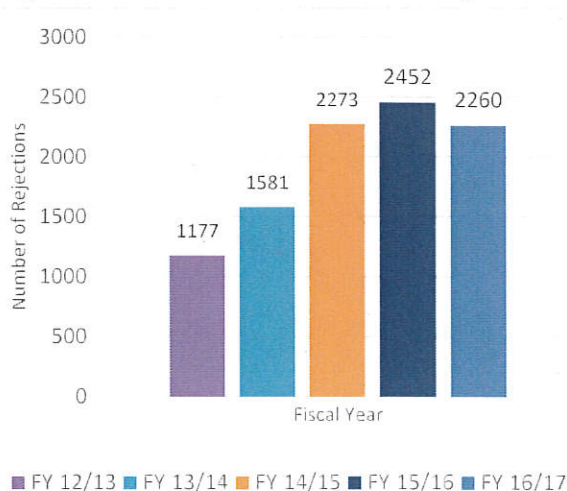
The California Dog Teams continue to demonstrate that unmarked parcels present a high-risk pathway for significant agricultural pests to enter California. During the agreement period, a total of 580 significant pests were intercepted by California Dog Teams (**Graph 1**). Some of these interceptions involved multiple pest specimens in a single package.

The California Dog Teams alerted on 40,001 total marked and unmarked parcels containing agricultural products. Of the total alerted parcels, 5,207 were intercepted at USPS facilities and of these packages 58% (3,021) were unmarked. Additionally, due to the efforts of the California Dog Teams, 2,260 rejections have been issued for violations of state and federal plant quarantine laws and regulations (**Graph 2**).

**Graph 1: Pest Interceptions**



**Graph 2: Violation of Plant Laws & Regulations**



## USPS PROGRESS

The CDFA continued laying the groundwork for Dog Teams working at U.S. Postal Service's (USPS) processing and distribution centers. This work is conducted under a multiagency Memorandum of Understanding (MOU). This MOU requires inspectors to contact either the shipper or receiver within 24 hours to gain consent to open a parcel the dog alerted on. Although this process is resource intense, data collected over the past two years demonstrate that the USPS is the highest risk parcel pathway based on the quantity of pest interceptions (**Graph 3**) and the quality of pest interceptions from unmarked parcels (**Graph 4**).



Because of the risks associated with the USPS, California Dog Teams are concentrating their efforts in the USPS processing and distribution system.

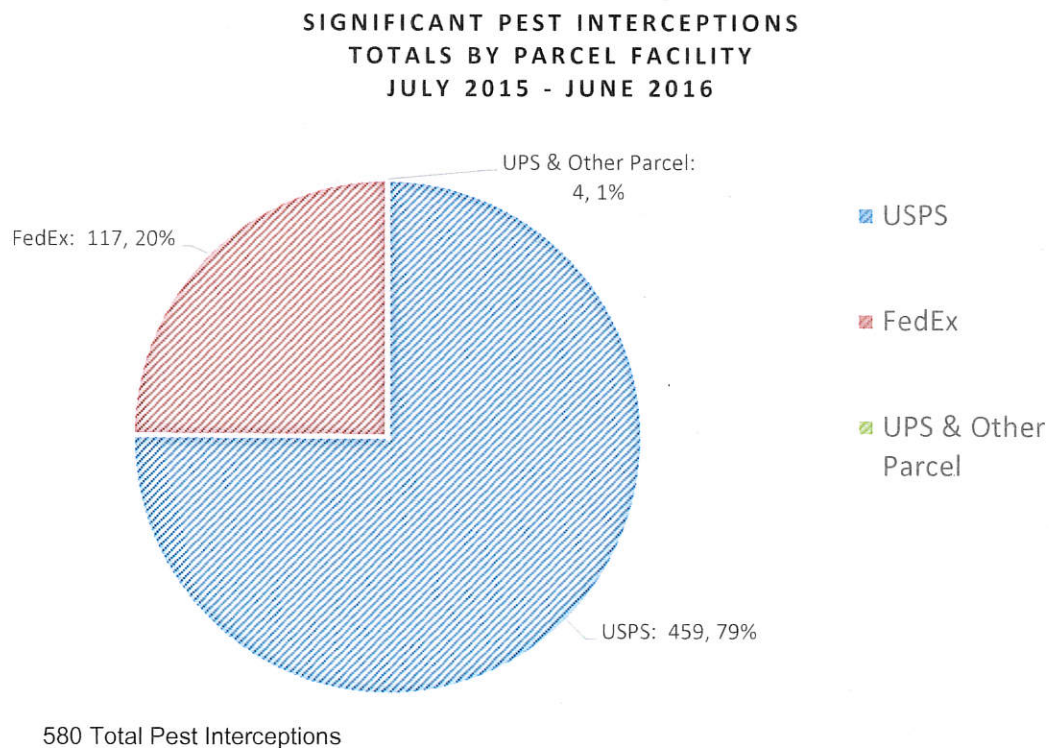
The pursuit of search warrants to open parcels when inspectors are unable to gain consent began in FY 14-15 as a pilot program in Santa Clara County (San Jose USPS). All parcels opened with a search warrant have contained agricultural material. The CDFA continues to work with the USDA on expanding the ability to seek search warrants at all USPS locations when inspectors are unable to gain consent.

This FY, the CDFA obtained authorization from the USPS to work an additional five Processing and Distribution Centers statewide. In addition, the CDFA was delegated authority to enforce the Terminal Inspection Act in California.

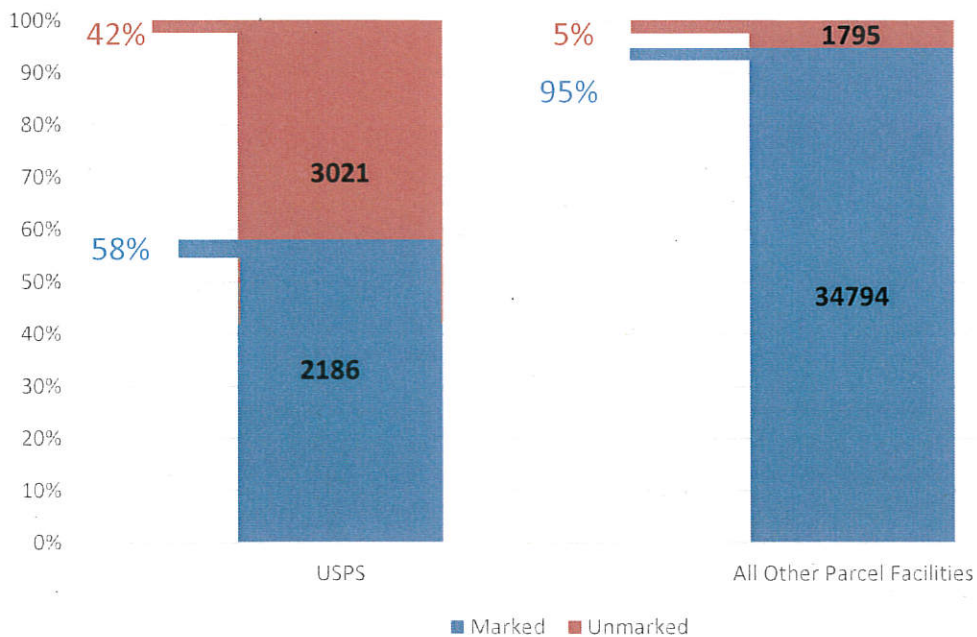
**Graph 3** illustrates the distribution of pest interceptions by the California Dog Teams at different parcel facilities. The much higher frequency of interceptions at the USPS demonstrate the risk of parcels entering California through the USPS.

**Graph 4** illustrates the much higher occurrence of unmarked parcels at the USPS than at private parcel facilities. Consequently, the California Dog Teams have increased their inspection hours at the USPS facilities.

GRAPH 3: CA DOG TEAMS- PEST INTERCEPTION TOTALS PER FACILITY TYPE



**GRAPH 4: COMPARISON OF MARKED VS. UNMARKED PARCEL INTERCEPTIONS  
BY PARCEL FACILITY**



#### SIGNIFICANT PEST INTERCEPTIONS

During this agreement period, California Dog Teams were extremely successful at protecting California agriculture by intercepting significant pests of agriculture before they could be introduced into California. **Table 2** below lists the number and type of actionable pests which included 125 actionable A-rated pests and 455 actionable Q-rated pests.



**Table 2: Significant Pests Interceptions**

July 1, 2016 – June 30, 2017



Interceptions	Common Name	Scientific Name	Rating	Origin
2	Leaf Miner	Agromyzidae Family	Q	FL (2)
1	White Fly	Aleurocanthus/sp	Q	FL (1)
1	White Fly	Aleurodicus/dispersus	Q	HI (1)
1	White Fly	Aleurodicus/sp.	Q	FL (1)
10	White Fly	Aleurotrachelus/sp.	Q	FL (2), PR (1))
1	White Fly	Aleurovitreus/sp	Q	FL (1)
9	White Fly	Aleyrodidae Family	Q	FL (5), HI (4)
3	<b>West Indian Fruit Fly</b>	Anastrepha/obliqua	A	PR (3)
1	<b>Fruit Fly</b>	Anastrepha/sp.	A	FL (1)
2	<b>Caribbean Fruit Fly</b>	Anastrepha/suspensa	A	FL (1)
1	Ant	Anoplolepis/gracilipes	Q	HI (1)
3	Oriental Scale	Aonidiella/orientalis	A	FL (3)
16	Aphid	Aphididae Family	Q	FL (4), HI (7), GA (1), LA (1), OR (1), PA (1), PR (1)
1	Stick Bug	Arvelius/albopunctatus	Q	FL (1)
2	Armored Scale	Aspidiella/sacchari	Q	FL (2)
3	Coconut Scale	Aspidiotus/destructor	A	FL (2), TX (1)
17	Armored Scale	Aulacaspis/tubercularis	Q	FL (8), PR (9)
1	<b>Oriental Fruit Fly</b>	Bactrocera/dorsalis	A	HI (1)

Interceptions	Common Name	Scientific Name	Rating	Origin
1	Wasp	Bephratelloides/cubensis	Q	FL (1)
4	Moth	Blastobasidae Family	Q	CA (2), FL (2)
1	Moth	Blastodacna/sp	Q	NH (1)
2	Cockroach	Blattodea Order	Q	FL (2)
1	Snail	Bulimulus/guadalupensis	Q	FL (1)
1	Moth	Cacographis/osteolalis	Q	FL (1)
1	Snail	Camaenidae Family	Q	PR (1)
1	Carpenter Ant	Camponotus/sp.	Q	MN (1)
7	<b>Huanglongbing</b>	Candidatus Liberibacter/	A	FL (3), GA (1), LA (1), PR (2)
3	Ant	Cardiocondyla/obscurior	Q	FL (3)
1	Aphid	Cerataphis/sp.	Q	HI (1)
5	Florida Wax Scale	Ceroplastes/floridensis	A	AL (1), FL (4)
3	Fig Wax Scale	Ceroplastes/rusci	A	FL (2), HI (1)
5	Wax Scale	Ceroplastes/sp.	Q	FL (4), HI (1)
1	Armored Scale	Chrysomphalus/sp.	Q	FL (1)
5	Leafhopper	Cicadellidae Family	Q	FL (4), HI (1)
1	Herculeana Scale	Clavaspis/herculeana	A	HI (1)
29	Scale	Coccidae Family	Q	CA (2), FL (18), HI (2), MS (1), NJ (1), OR (1), PR (3), TX (1)
1	Capparis Soft Scale	Coccus/capparidis	Q	FL (1)
3	Green Scale	Coccus/viridis	A	FL (2), HI (1)
1	Leaf Spot	Coleophoma/empetri	Q	FL (1)
25	Fruit Spot	Colletotrichum/asianum	Q	FL (21), PR (4)
2	Fruit Spot	Colletotrichum/fruticola	Q	FL (2)
2	Fruit Spot	Colletotrichum/queenslandicum	Q	FL (2)
1	Fruit Spot	Colletotrichum/sp.	Q	FL (1)



Interceptions	Common Name	Scientific Name	Rating	Origin
5	Fruit Spot	Colletotrichum/theobromicola	Q	FL
4	Fruit Spot	Colletotrichum/theobromicola	Q	FL (4)
1	Angraecum Scale	Conchaspis/angraeci	Q	HI (1)
1	<b>Butternut Curculio</b>	Conotrachelus/juglandis	A	VA (1)
1	Grass Moth	Crambidae Family	Q	NJ (1)
16	Weevil	Cucurlionidae Family	Q	AL (1), CT (1), KY (1), MA (1), MN (1), NC (3), RI (1), SC (3), TN (1), TX (2), VA (1)
1	<b>Hickory Shuckworm</b>	Cydia/caryana	A	PA (1)
4	<b>Asian Citrus Psyllid</b>	Diaphorina/citri	A	CA (2), FL (1), TX (1)
15	Scale	Diaspididae Family	Q	FL (6), HI (5), NJ (2), PR (2)
12	Mealybug	Dysmicoccus/grassii	A	FL (10), PR (1), TX (1)
1	Click Beetle	Elateridae Family	Q	KY (1)
3	Sweet Orange Scab	Elsinoe/australis	A	FL (1), PR (!), TX (1)
1	Mite	Eriophyidae Family	Q	TX (1)
1	Giant Prickly Stick Insect	Extatosoma/tiaratum	Q	CA (1)
17	Striped Mealybug	Ferrisia/dasyliirii	Q	FL (17)
4	Mealybug	Ferrisia/sp.	Q	FL (4)
1	Armored Scale	Fiorinia/phantasma	Q	HI (1)
1	Ant	Formicidae Family	Q	FL (1)
2	Gastropod	Gastropoda Order	Q	FL (1), HI (1)
2	Moth	Gelechiidae Family	Q	FL (2)

Interceptions	Common Name	Scientific Name	Rating	Origin
1	Senegal Tea Plant	Gymnocoronis/spilanthoides	Q	AZ (1)
12	<b>Cedar Apple Rust</b>	Gymnosporangium/juniperi-virginianae	A	CT (1), FL (1), IL (1), MA (3), MD (1), MN (1), NH (1), NY (1), TN (1), VT (1)
1	Armored Scale	Hemiberlesia/neodiffinis	Q	FL (1)
3	True Bug	Hemiptera Order	Q	FL (2), NC (1)
1	Moth	Hendecasis/duplifascialis	Q	NJ (1)
2	Banana-silvering Thrips	Hercinothrips/bicinctus	Q	CA (2)
1	True Bug	Heteroptera Order	Q	FL (1)
1	Blastobasid Moth	Holcocera/crassicornella	Q	FL (1)
1	Mining Scale	Howardia/biclavis	A	FL (1)
31	Insect eggs	Insect egg	Q	AL (1), AR (1), FL (14), HI (5), IN (1), LA (1), PR (5), TX (3)
2	Black Thread Scale	Ischnaspis/longirostris	A	FL (2)
1	Termite	Isoptera Family	Q	HI (1)
1	Planthopper	Kallitaxila/granulata	Q	HI (1)
4	Moth	Lepidoptera Order	Q	FL (3), NY (1)
1	Armored Scale	Lepidosaphes/eurychlidonis	Q	FL (1)
3	Armored Scale	Lepidosaphes/sp.	Q	HI (1), PR (2)
1	<b>South American Spongeplant</b>	Limnobium/laevigatum	A	AZ (1)
3	Armored Scale	Lindingaspis/floridana	Q	FL (3)
15	Pink Hibiscus Mealybug	Maconellicoccus/hirsutus	A	CA (1), FL (14)
	Mango Shield Scale	Milviscutulus/mangiferae	Q	FL (1), HI (1)



Interceptions	Common Name	Scientific Name	Rating	Origin
1	Capsid Bugs	Miridae Family	Q	HI (1)
1	Ant	Monomorium/sp.	Q	FL (1)
2	Masked Scale	Mycetaspis/personata	Q	FL (2)
1	Ant	Myrmica/latifrons	Q	WI (1)
4	Fruit Spot	Neofusicoccum/mangiferae	Q	FL (2), PR (1), Unkwn (1)
1	Fruit Spot	Neofusicoccum/sp.	Q	PR (1)
1	Mealybug	Nipaecoccus/floridensis	Q	FL (1)
4	Mealybug	Nipaecoccus/sp.	Q	FL (4)
1	Moth	Noctuidae Family	Q	NJ (1)
2	Seed Bug	Nysius/sp.	Q	FL (1), MA (1)
2	Mealybug	Paracoccus/marginatus	Q	FL (2)
2	Sansevieria Scale	Parlatoria/proteus	A	FL (2)
1	Black Citrus Scale	Parlatoria/ziziphi	A	PR (1)
1	Land Snail	Paropeas/achatinaceum	A	LA (1)
1	Rust	Phakopsora/phyllanthi	Q	FL (1)
4	Exotic Soft Scale	Phalacroccoccus/howertoni	Q	FL (3), PR (1)
18	Ant	Pheidole/sp.	Q	AL (2), FL (10), HI (2), LA (1), MS (2), TX (1)
2	Mealybug	Phenacoccus/gossypii group	Q	FL (2)
1	Tube-tailed Thrip	Phlaeothripidae Family	Q	TX (1)
3	Boxwood Scale	Pinnaspis/buxi	A	HI (3)
9	Lesser Snow Scale	Pinnaspis/strachani	A	FL (6), HI (1), PR (2)
3	Mealybug	Planococcus/lilacinus	A	AL (1), FL (2)
2	Slender Soft Scale	Prococcus/acutissimus	Q	FL (2)
1	Camphor Scale	Pseudaonidia/duplex	Q	GA (1)
4	Trilobe Scale	Pseudaonidia/trilobitiformis	Q	EC (1), FL (1), GU (1), HI (1)
7	Magnolia White Scale	Pseudaulacaspis/cockerelli	A	FL (2), HI (5)
2	White Peach Scale	Pseudaulacaspis/pentagona	A	FL (2)

Interceptions	Common Name	Scientific Name	Rating	Origin
1	Leaf Spot	Pseudocercospora/smilacicola	Q	TX (1)
1	<b>Twobanded Japanese Weevil</b>	Pseudocneorhinus/bifasciatus	Q	MA (1)
57	Mealybug	Pseudococcidae Family	Q	CA (2), FL (36), HI (10), PR (4), TX (3), VA (1), Unknwn (3)
1	Citriculus Mealybug	Pseudococcus/cryptus	A	HI (1)
2	Mealybug	Pseudococcus/jackbeardsleyi	Q	CA (1), FL (1)
4	Mealybug	Pseudococcus/odermatti	Q	FL (4)
1	Mealybug	Pseudococcus/sp.	Q	PR (1)
1	Fruit Spot	Pseudofusicoccum/sp.	Q	FL (1)
3	Bagworm Moth	Psychidae Family	A	AL (1), FL (2)
5	Psyllid	Psyllidae Family	Q	CA (4), FL (1)
5	Moth	Pyrilidae Family	Q	CA (1), FL (2), LA (1), OH(1)
1	<b>Burrowing Nematode</b>	Radopholus/similis	A	FL (1)
1	<b>Western Cherry Fruit Fly</b>	Rhagoletis/indifferens	A	WA (1)
2	Walnut Husk Fly	Rhagoletis/suavis	A	OH (2)
1	Lychee Bark Scale	Rutherfordia/major	Q	FL (1)
2	Bark Beetle	Scolytidae Family	Q	CA (2)
1	Tropical Fire Ant	Solenopsis/geminata	Q	PR (1)
2	Red Imported Fire Ant	Solenopsis/invicta	A	AL (1), FL (1)
1	Sphinx Moth	Sphingidae Family	Q	FL (1)
1	Snail	Succinea/sp.	Q	NY (1)
2	Ant	Technomyrmex/sp.	Q	FL (2)
1	Redbanded Whitefly	Tetraleurodes/sp.	Q	CA (1)
1	Spider Mite	Tetranychidae Family	Q	FL (1)
4	Tetranychid Mite	Tetranychus/sp.	Q	FL (2), GA (1), HI (1)
2	Bush Cricket	Tettigoniidae Family	Q	FL (2)



Interceptions	Common Name	Scientific Name	Rating	Origin
6	Thrips	Thripidae Family	Q	CA (1), FL (1), NY (1), SC (1), TX (2)
1	Thrips	Thrips/florum	A	HI (1)
12	longan Scale	Thysanofiorinia/nephelii	Q	FL (12)
1	Thrips	Thysanoptera Order	Q	HI (1)
5	Moth	Tortricidae Family	Q	FL (4), Unknwn (1)
2	<b>Papaya Fruit Fly</b>	Toxotrypana/curvicauda	A	FL (2)
1	Peacock Mite	Tuckerella/sp.	Q	PR (1)
1	Citrus Snow Scale	Unaspis/citri	A	FL (1)
3	Slug	Veronicellidae Family	Q	FL (2), HI (1)
1	Scolytid Beetle	Xylosandrus/sp	Q	HI (1)
1	Snail	Zachrysia/provisoria	Q	FL (1)
3	African Fig Fly	Zaprionus/indianus	Q	FL (3)

**580 Total Interceptions**

## HIGHLIGHTS OF COUNTY DOG TEAM INTERCEPTIONS

Dog team interceptions from July 1, 2016 to June 30, 2017 resulted in the interception of 125 A-rated pests and 455 Q-rated pests. Of these pest interceptions, there were seven interceptions of the huanglongbing (HLB), four Asian Citrus psyllid interceptions, nine exotic fruit fly interceptions, including Caribbean, Oriental and West Indian fruit fly, as well as other notable pests such as butternut curculio, cedar apple rust, hickory shuckworm, South American spongeplant and twobanded Japanese weevil. These quarantine pests are not known to occur in California and the dog team interceptions were critical to prevent the establishment of these detrimental pests in California. The narratives below detail examples of interesting interceptions during the reporting period.

## EXAMPLES OF ALAMEDA COUNTY DOG TEAM INTERCEPTIONS

Summary of Interception Highlights:

1. *Unmarked Custard Apple Shipment*
2. *Curry Leaves, Curry Fruit, and Mango Fruit with Caribbean Fruit Fly*
3. *Florida Curry Leaves*
4. *Cacao Seed Pods Interception*
5. *Multiple Pests from Puerto Rico*

## Unmarked Custard Apple Shipment

On July 14, 2016, Alameda County dog team Inspector/Handler Lisa Sampson with dog Cosmo and inspector Chris Craft intercepted an unmarked and uncertified parcel from Puerto Rico at USPS in Oakland.

Inspector Craft obtained permission from the receiver to open the parcel for inspection. The parcel contained unknown plants with soil. Upon inspection, some suspect pests were found on the leaves.

Pest samples were submitted to the PPD Laboratory and identified as Q-rated *Aleurotrachelus* sp. (whitefly) pupae and Q-rated Cicadellidae (leafhopper) nymph. A plant sample was also submitted to the Botany Laboratory and was determined to be a member of the custard-apple family.



Various pests intercepted by Alameda County Dog Team; photos courtesy of Alameda County



## Curry Leaves, Curry Fruit, and Mango Fruit with Caribbean Fruit Fly

On August 4, 2016, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo intercepted an unmarked box from Florida at the USPS facility in Oakland.

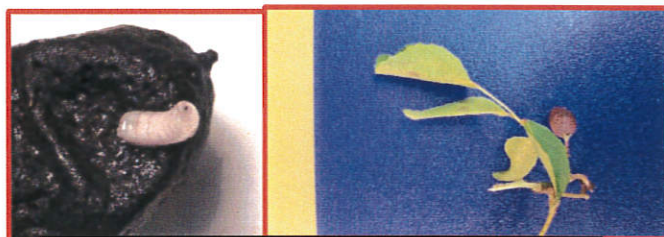
Alameda County Inspector Chris Craft obtained permission from the shipper to open the box for inspection.



Curry leaves with fruit from Florida; photos courtesy of Alameda County

The box contained curry leaves, curry fruit, and mango fruit. Inspector Craft confiscated the parcel due to multiple quarantine violations. Upon inspection, pests were found on the curry leaves and fruit.

The mango fruit was inspected, but there was no evidence of pest activity on the interior or exterior of the fruit. Samples of curry leaves with fruit were submitted to the PPD Laboratory and pests were identified as A-rated *Anastrepha suspensa* (Caribbean fruit fly) and Q-rated Diaspididae (armored scale).



Curry leaves with fruit from Florida, infested with Caribbean fruit fly; photos courtesy of Alameda County

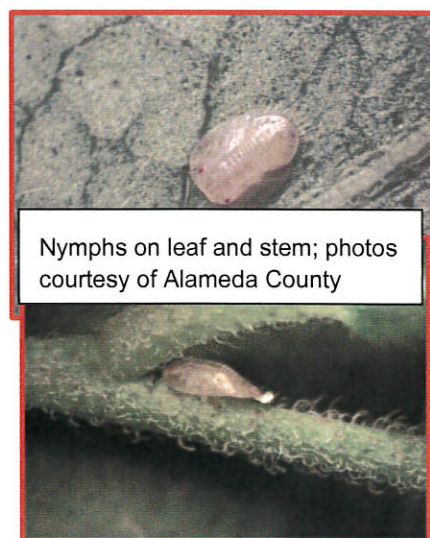
## Florida Curry Leaves

On October 5, 2016, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo and Inspector Chris Craft intercepted an unmarked box from Florida at the USPS facility in Oakland.

Inspector Craft obtained permission from the shipper to open and inspect the box. The box contained cut stems and curry leaves with live pests on both the leaves and stem.

Pest samples were submitted to the PPD Laboratory for identification and identified as A-rated *Pseudaonidia trilobitiformis* (trilobe scale) and Q-rated Diaspididae (armored scale).

Additionally, Q-rated Psyllidae (probably *Diaphorina citri*) and Q-rated Coccidae (soft scale) were identified.



Nymphs on leaf and stem; photos courtesy of Alameda County

## Cacao Seed Pods Interception

On December 15, 2016, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo and Inspector Chris Craft intercepted an unmarked and uncertified box from Puerto Rico at a USPS facility in Oakland.

The box contained cacao seed pods. Inspector Chris Craft obtained permission from the shipper via email for inspection of the box. Upon inspection, Inspector Craft found some suspect pests and brown spots on the pods.

Samples of pods with brown spots were submitted to the PPD Laboratory and identified as Q-rated *Diaporthe pseudomangiferae* (rachis canker and flower rot).



Cacao seeds in pods from Puerto Rico, infested with *Diaporthe pseudomangiferae* (Rachis canker and flower rot). Photo courtesy of Alameda County

## Multiple Pests from Puerto Rico

On February 8, 2017, Alameda County Dog Team Inspector/Handler Lisa Sampson with dog Cosmo and Inspector Chris Craft intercepted an unmarked parcel from Puerto Rico destined for Vallejo at the USPS in Oakland. Inspector Craft received permission from the receiver to do a thorough inspection of the parcel for any possible pests. The parcel contained a variety of agricultural and nonagricultural products. Within the package culantro leaves, banana leaves, and peppers were removed after suspect pests were found.

The pest samples were collected and sent to the PPD Laboratory where the following six Q-rated pests were identified:

- Coccidae (scale)
- Diaspididae (scale)
- Pseudococcidae (mealybug)
- Monophlebidae (scale)
- Insect egg
- Phlaeothripidae



Agricultural commodities found within an unmarked parcel; photo courtesy of Alameda County



# EXAMPLES OF CONTRA COSTA COUNTY DOG TEAM AND SANTA CLARA INTERCEPTIONS

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## Summary of Interception Highlights:

1. *Unmarked Package of Florida Origin Sugar Apples and Starfruit*
2. *Cerambycidae Larvae in Wisconsin Oak Cuttings*

### Unmarked Package of Florida Origin Sugar Apples and Starfruit

On August 3, 2016, Contra Costa Dog Team Inspector/Handler Cecilie Siegel with dog Conan intercepted an unmarked and uncertified package from Florida at the USPS in San Jose.

Permission was obtained from the shipper to open the package for inspection. The package contained *Annona squamosa* (sugar apples) and carambola (starfruit).

Upon inspection of the sugar apples, Santa Clara County Agricultural Biologist Gary Meyer and Paulo Philippidis found mealybugs on the outside of the fruit.

Pest samples were submitted to the PPD Laboratory and identified as A-rated *Maconellicoccus hirsutus* (pink hibiscus mealybug).



Contra Costa County Dog Conan in Action  
Photo courtesy of Contra Costa County

### **Cerambycidae Larvae in Wisconsin Oak Cuttings**

On August 31, 2016, Contra Costa County Dog Team Inspector/Handler Cecilie Siegel with dog Conan intercepted an unmarked and uncertified package from Wisconsin at the USPS in San Jose.

Permission was obtained from the receiver to open the package for inspection. The package contained white oak cuttings.

Upon inspection of the white oak cuttings, Santa Clara County Agricultural Biologist Julius Calso and Paulo Philippidis found some larvae coming out of the bark.

Pest samples were submitted to the PPD Laboratory and identified as Q-rated Cerambycidae.



Cerambycidae larvae intercepted from Wisconsin's white oak cuttings; photos courtesy of Santa Clara County



# EXAMPLES OF CONTRA COSTA COUNTY DOG TEAM AND YOLO INTERCEPTIONS

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## Summary of Interception Highlights:

1. *Cedar Apple Rust*
2. *Multiple Pests*

### Cedar Apple Rust

On August 10, 2016, Contra Costa County Dog Team Inspector/Handler Cecilie Siegel with dog Conan and Yolo County Inspectors Bill Lyon and Kevin Martyn intercepted an unmarked and uncertified box of *Malus* sp. (crabapples) from Georgia at USPS in West Sacramento. Permission was obtained to open the box for inspection.

Upon inspection of the crabapples, Yolo County inspectors Lyon and Martyn found some symptomatic leaves.

Symptomatic leaf samples were submitted to the PPD Laboratory for identification and identified as A-rated *Gymnosporangium juniperi-virginianae* (cedar-apple rust).

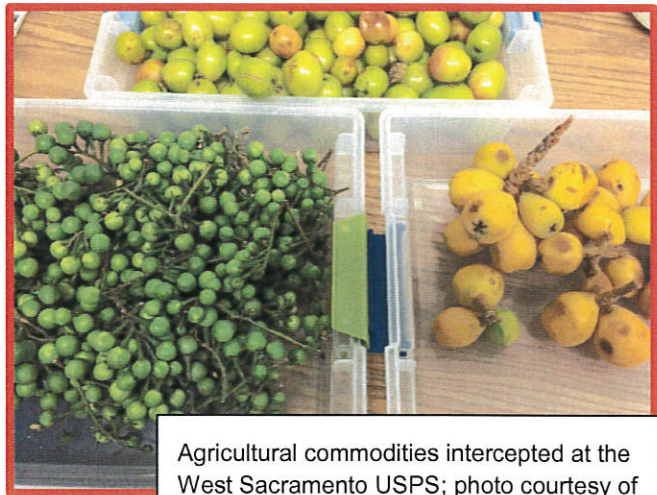


Crabapples with leaves from Georgia; photo courtesy of Yolo County

### Multiple Pests

On March 8, 2017, Yolo County inspectors Bill Lyon and Michelle Lawson assisted the Contra Costa County Dog Team consisting of Inspector/Handler Cecilie Siegel and dog Conan at the West Sacramento USPS facility.

Inspector Siegel intercepted an unmarked and uncertified package from Florida containing *Solanum torvum* (turkey berries), *Ziziphus jujube* (jujubes) and *Eriobotrya japonica* (loquats). Inspector Lyon obtained permission from the shipper for a thorough inspection of the package.



Agricultural commodities intercepted at the West Sacramento USPS; photo courtesy of Yolo County

Upon inspection, a suspect weevil was found on the turkey berries and scales were found on the jujubes. Pest samples were submitted to the PPD Laboratory and identified as A-rated *Mylocherus undecimpustulatus* (Sri Lanka weevil) Q-rated Pseudococcidae (immature female mealybug), and Q-rated Diaspididae (immature male armored scales).

*Mylocherus undecimpustulatus* (Sri Lanka weevil) found in unmarked parcel; photo courtesy of Yolo County



## EXAMPLES OF FRESNO COUNTY DOG TEAM INTERCEPTIONS

### Summary of Interception Highlights:

1. *Thrips and Mealybugs on Flowers*
2. *Banana Pests*

### Thrips and Mealybugs on Flowers

On November 3, 2016, Fresno County Dog Team Inspector/Handler Samantha Tomlinson with dog Soya and Inspector Kori Peterson intercepted a marked and certified box from Hawaii at FedEx Air in Clovis.

The box contained *Dendrobium* sp. (orchids) cut flowers and *Alpinia purpurata* (pink ginger) cut flowers. Upon inspection, Inspector Peterson found some suspect thrips inside several orchids and mealybugs inside the petals near the base of two pink ginger flowers.

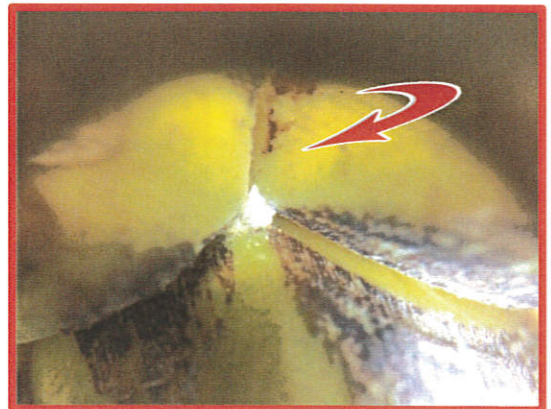
Pest samples were collected and submitted to the PPD Laboratory and identified as Q-rated Thysanoptera (thrips) and Q-rated Pseudococcidae (mealybugs).

### Banana Pests

On January 26, 2017, Fresno County Dog Team Inspector/Handler Samantha Tomlinson with dog Soya and Inspector Kori Peterson intercepted an unmarked and uncertified box from Florida at FedEx Air in Clovis.

The box contained Praying Hands bananas. Upon inspection of the fruit, Inspector Peterson found several mealybugs, egg masses, ants, and other pests throughout the fruit as well as within the crevices.

Banana from Florida infested with mealybug; photo courtesy of Fresno County





Pest samples were collected and submitted to the PPD Laboratory and identified as A-rated *Pseudococcus jackbeardsleyi* (mealybug) and Q-rated *Cardiocondyla obscurior* (ant).

## EXAMPLES OF LOS ANGELES COUNTY DOG TEAM INTERCEPTIONS

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### Summary of Interception Highlights:

1. *Unmarked Package of Cherimoya and Mango Fruit*
2. *Longans and Sugar Apples*
3. *Multiple Pests on Hawaii Flowers*
4. *Pseudococcidae Intercepted on Pineapples*

### Unmarked Package of Cherimoya and Mango Fruit

On August 4, 2016, Los Angeles County Dog Team Inspector/Handler Lauren Eckert with dog Sedona and Inspector Shawn Borbor intercepted an unmarked and uncertified box containing cherimoya and mango fruit from Florida at USPS in Los Angeles. Inspector Borbor obtained permission from the receiver to open the box for inspection.

Upon inspection of the fruit in the box, Inspector Eckert found several pests on and in the cherimoya fruit. Pest samples were submitted to the PPD Laboratory. The laboratory identified A-rated *Maconellicoccus hirsutus* (pink hibiscus mealybug).



Left - Shipment of fruit from Florida. Right - Cherimoya Infested with Pink Hibiscus Mealybug; photos courtesy of Los Angeles County

### Longans and Sugar Apples

On August 23, 2016, Los Angeles County Dog Team Inspector/Handler Lauren Eckert with dog Sedona and Inspectors Gerardo Gurrola, Huy Vuong, and Rick LeFeuvre were working at a FedEx Facility in the City of Industry.

Sedona alerted to an unmarked and uncertified box which contained sugar apples and longans fruit shipped from Illinois.

Upon inspection of the fruit, several pests were found on the longans. Pest samples were submitted to the PPD Laboratory and identified as A-rated *Dysmicoccus grassii* (mealybugs).



Longans and sugar apples; photo courtesy of Los Angeles County

### Multiple Pests on Hawaii Flowers

On October 19, 2016, Los Angeles County Dog Team Inspector/Handler Diana Eckert with dog Agent intercepted a certified but unmarked box of flowers and foliage from Hawaii at FedEx in Hawthorne.

Upon careful inspection of flowers and foliage, Inspector Eckert found three types of plant pests on the flowers and stems.

The pest samples were submitted to the PPD Laboratory for identification and identified as

- A-rated *Acutaspis albopicta* (albopicta scale)
- Q-rated *Pheidole megacephala* (bigheaded ant)
- Q-rated Tydeidae (mite)



Flowers and foliage from Hawaii; photos courtesy of Los Angeles County





### **Pseudococcidae Intercepted on Pineapples**

On May 4, 2017, Los Angeles County Inspector/Handler Lauren Eckert and dog Sedona intercepted a marked and certified package of *Ananas comosus* (pineapples) from Hawaii at a FedEx location in Los Angeles.

Upon inspection of the pineapples, Eckert found several immature mealybugs on the fruit.

The pest samples were submitted to the PPD Laboratory and identified as Q-rated *Pseudococcidae* (mealybugs).

Los Angeles County Dog Team member Sedona with pineapples from Hawaii; photo courtesy of Los Angeles County



## **EXAMPLES OF SACRAMENTO COUNTY DOG TEAM AND YOLO INTERCEPTIONS**

Summary of Interception Highlights:

1. *Oriental Scales from Florida*
2. *Tawny Crazy Ants*
3. *Several Scale Interception from Florida*
4. *Caribbean Fruit Fly*
5. *Rose Apple and Mango Infestation with Caribbean Fruit Fly*
6. *Multiple Pests*
- 7.

### **Oriental Scales from Florida**

On September 16, 2016, Sacramento County Dog Team Inspector/Handler Jennifer Berger with dog Dozer intercepted a package from Florida at the West Sacramento USPS distribution facility.

The box contained three mangoes. Yolo County Inspectors Bill Lyon and Kevin Martyn obtained permission from the receiver to open the box for inspection. Upon inspection of the fruit, live pests were found on the fruit.

Pest samples were submitted to the PPD Laboratory for identification and identified as A-rated *Aonidiella orientalis* (Oriental scale).



Mangoes from Florida, infested with Oriental scale; photos courtesy of Yolo County

### Tawny Crazy Ants Interception

On January 5, 2017, Sacramento County Dog Team Inspector/Handler Jennifer Berger with canine Dozer and Yolo County Inspectors Bill Lyon and Michelle Lawson intercepted an unmarked and uncertified package from Florida at the West Sacramento USPS distribution facility. Sacramento County Deputy Commissioner Martyn obtained permission from the shipper for inspection. The package contained three orchid plants in pots with bark substrate (soil-free) from Florida.



Inspectors Lyon and Lawson were able to conduct a thorough inspection and found nesting ants with larvae and pupae in one pot.

Orchid plants from Florida intercepted; photos courtesy of Sacramento County

Several tiny live insect samples were submitted to the PPD Laboratory and identified as Q-rated *Nylanderia* sp. (tawny crazy ants).



### Several Scale Interception from Florida

On March 29, 2017, Yolo County inspectors Bill Lyon and Michelle Lawson assisted Sacramento County Dog Team Handler Jennifer Berger and dog Dozer at the West Sacramento USPS Facility.

Inspectors Lyon and Lawson intercepted two unmarked and uncertified packages from Florida. They obtained permission from both shippers for inspection of the parcels.

The first package contained five packages of Palmaceae (sago palm) fronds and the second package contained *Murraya* sp., (curry leaves), mangoes, and sapodilla.

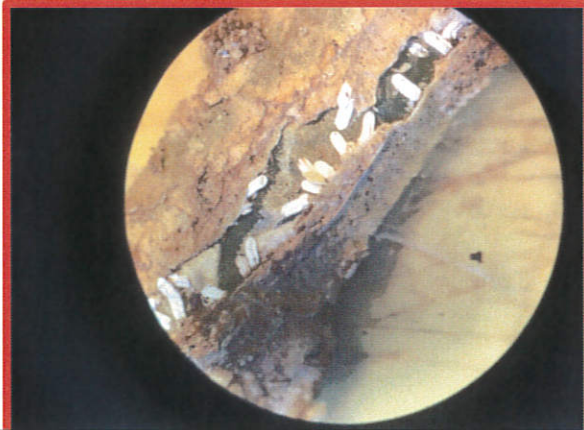


Shipment of sago palm fronds from Florida; photo courtesy of Yolo County



Upon inspection of the packages, scales were found on the fronds and on the curry leaves. Pest samples were collected and submitted to the PPD Laboratory where they were identified as A-rated *Pinnaspis strachani* (lesser snow scale) on the curry leaves and A-rated *Aulacaspis yasumatsui* (cycad aulacaspis scale) on the sago palm.

Inspector Lawson reported that the *Aulacaspis yasumatsui* scale is native to Thailand and was introduced into Florida in 1996. Its hosts include three families of cycads and is considered a serious pest because it can infest leaves, trunks, and roots. Damage may lead to death of the host plant.



*Pinnaspis strachani* (lesser snow scale); photo from a previous interception in June 2016, courtesy of Yolo County



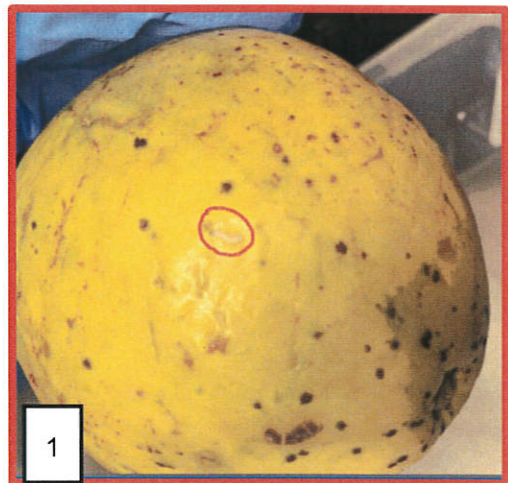
*Aulacaspis yasumatsui* (cycad aulacaspis scale) intercepted on sago palm fronds from Florida; photo courtesy of Yolo County

### Caribbean Fruit Fly Interception

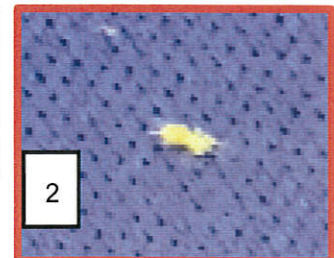
On April 26, 2017, Sacramento County Dog Team Inspector/Handler Jennifer Berger with Dog dozer and Yolo County inspectors Bill Lyon and Michelle Lawson intercepted an unmarked and uncertified package from Tropical Importers Florida at the West Sacramento USPS facility.

The package was marked "OK for Ag to inspect" and contained two mesh bags with 15 *Psidium* sp. (guava) and eight *Manikara zapota* (sapodilla).

Upon surface inspection of the guava, the Yolo County inspector observed "exit holes", which were indicative of fruit fly larval damage. The inspectors began to cut the fruit and found many larvae within.



Guava fruit from Florida with larva emerging (1) and Caribbean fruit fly larva (2); photos courtesy of Yolo County



Pest samples were submitted to the PPD Laboratory and identified as A-rated *Anastrepha suspensa* (Caribbean Fruit Fly) by the molecular laboratory through DNA analysis.

### Rose Apple and Mango Infestation with Caribbean Fruit Fly

On June 9, 2017, Yolo County Inspectors Bill Lyon and Michelle Lawson assisted Sacramento County Dog Team Handler Jennifer Berger and dog Dozer at the West Sacramento USPS Sectional Center in Yolo County.

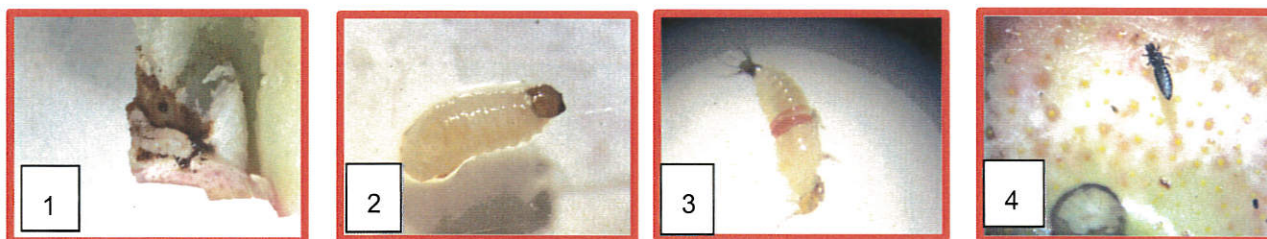
Inspectors Lyon and Lawson intercepted an unmarked and uncertified package of suspect fruit from Florida. Jerry Zepeda of Sacramento County contacted the receiver to obtain permission to open the package for inspection. The package contained 25 *Syzgium* sp. (rose apples) and 10 *Mangifera* sp. (mangoes).



Infested rose apples from Florida; photos courtesy of Yolo County

Upon inspection, Yolo County Inspectors Lyon and Lawson collected suspect pests from the rose apples.

Pest samples were submitted to the PPD Laboratory where they were identified as A-rated *Anastrepha suspensa* (Caribbean fruit fly), A-rated *Selenothrips rubrocinctus* (redbanded thrips), and Q-rated Curculionidae (weevil larva).



Rose apple fruit from Florida: 1-true weevil in fruit, 2-true weevils enlarged from family (Curculionidae), 3-red banded thrips larva, 4-adult redbanded thrips; photos courtesy of Yolo County



## Multiple Pests

On June 15, 2017, Yolo County Inspectors, Bill Lyon and Michelle Lawson assisted Sacramento County Dog Team Handler Mariah DeNijs and dog Cairo at the West Sacramento USPS Facility.

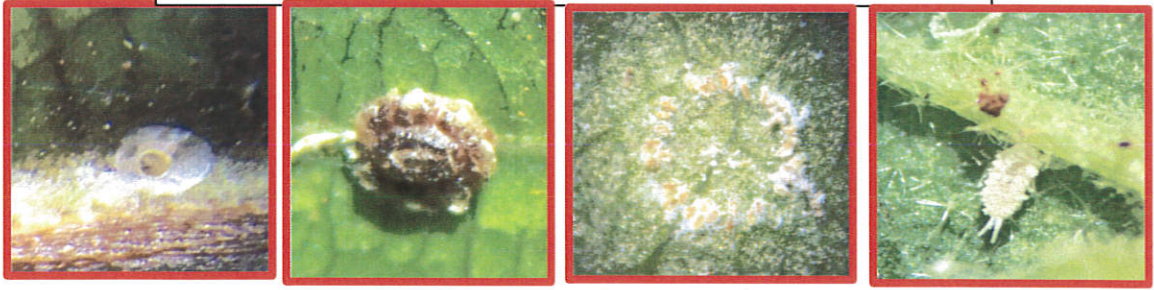
Yolo County Inspectors Lyon and Lawson intercepted an unmarked and uncertified package from Hawaii. Permission to inspect the package was obtained from the receiver. The package contained seven separate bags of leafy plant material intended for food consumption and each were individually examined. Some of the plant material appeared to be clean except the *Moringa oleifera* (moringa pods), *Musa acuminata* (banana leaves), subasub leaves, *Ipomoea batatas* (camote cuttings), and gayubano leaves (herbal medicine) which had several pests.



Various plant material contained in a package; photos courtesy of Yolo County

Inspectors collected suspect insects from the different plant leaves and submitted them to the PPD Laboratory for identification. The pests were identified as the following:

1. Pseudococcidae (immature female)
2. Aleyrodidae (larva)
3. *Pheidole* sp. (ant)
4. Aleyrodidae (eggs)
5. Diaspididae (immature male)
6. Pseudococcidae (crawler)
7. *Aulacaspis tubercularis* (armored scale)
8. Diaspididae (immature female)
9. Diaspididae (parasitized female remains)
10. Ceroplastes sp. (wax scale)
11. Thysanoptera (thrips)
12. Thysanoptera (thrips)
13. Coccidae (immature female)
14. *Asiothrixus antidesmae* (whitefly pupae)
15. *Ceroplastes stellifer* (stellate scale)
16. *Pseudococcus jackbeardsleyi* (mealybug)



## EXAMPLES OF SAN BERNARDINO COUNTY DOG TEAM INTERCEPTIONS

### Summary of Interception Highlights:

1. Multiple Shipments with Pests
2. Black House Ant

#### Multiple Shipments with Pests

San Bernardino County Dog Team Inspector/Handler Kristina Cummings with dog Bishop and inspectors Arnold Johnson and Shannon Lehrter intercepted multiple shipments of fruit and leaves from Florida and South Carolina. Details of the interceptions are as follows:

Pest (s) Intercepted	A-rated <i>Dysmicoccus grassii</i> (mealybug)	Q-rated <i>Milviscutulus mangiferae</i> (mango shield scale)	Q-rated <i>Prococcus acutissimus</i> (slender soft scale)
Date	09/16/2016	09/20/2016	09/20/2016
Host and Origin	<i>Annona</i> sp. (fruit) uncertified and unmarked from Florida	Hass avocado plants certified and marked from South Carolina	Certified and marked longans leaves from Florida
Inspection Location	USPS Redland, permission obtained	FedEx Ground, Bloomington	FedEx Ground, Bloomington

#### Black House Ant

On January 18, 2017, San Bernardino County Dog Team Inspector/Handler Kristina Cummings with dog Bishop and Inspector Kenny Nguyen intercepted two marked and certified shipments of *Protea repens* (pincushion protea) cut flowers from Hawaii at FedEx Air in Ontario.

Upon inspection of the cut flowers, Inspector Nguyen found some suspect pests in the shipment.

Pest samples were submitted to the PPD Laboratory and identified as A-rated *Ochetellus glaber* (black house ant).



## EXAMPLES OF SAN DIEGO COUNTY DOG TEAM INTERCEPTIONS

### Summary of Interception Highlights:

#### 1. Water Plants from Florida

##### Water Plants from Florida

On July 27, 2016, San Diego County Dog Team Inspector/Handler Jeremy Partch with dog Venus and Inspectors Nicole Goss, Jason Sapp and Adrienne Moss intercepted a shipment containing 29 packages at USPS from Florida. The shipment was unmarked and uncertified.

Inspector Goss obtained permission from the shipper to open the parcel for inspection. One out of 29 parcels contained *Eichhornia crassipes* (water hyacinth), *Pistia arum* (water lettuce) and an unknown plant. Upon inspection of the plants, all plants appeared healthy, and the shipper was contacted to provide the Hydrilla certification but failed to do so.

The unknown aquatic plant was submitted to the PPD Laboratory and identified as Q-rated *Myriophyllum aquaticum* (parrot feather watermilfoil).

## EXAMPLES OF SANTA BARBARA COUNTY DOG TEAM INTERCEPTIONS

### Summary of Interception Highlights:

#### 1. Midwest Pests

##### Midwest Pests

On June 20, 2017, Santa Barbara County Dog Team Handler/Inspector Chris Tyler with dog Doomis and Agricultural Biologist Julia Kosowitz intercepted an unmarked and uncertified package from Illinois at FedEx in Goleta.

The package contained 10 *Physocarpus opulifolius Diabolo* (ninebark), 10 *Spirea* sp. (spirea), and 5 *Syringa* sp. (lilac) cut foliage from Illinois with Wisconsin origin.

Upon inspection of the package, Agricultural Biologist Kosowitz noticed some suspect pests on the cut foliage.

Pest samples were submitted to the PPD Laboratory for identification and identified as Q-rated Miridae (plant bug) and Q-rated Cicadellidae (leafhopper).



Santa Barbara County Dog Team inspecting the shipment from Illinois; photo courtesy of Santa Barbara County

# EXAMPLES OF SANTA CLARA COUNTY DOG TEAM INTERCEPTIONS

## Summary of Interception Highlights:

1. *Sugar Apples and Longans from Florida*
2. *Chestnut nuts with Bark Beetle Larvae*

### Sugar Apples and Longans from Florida

On August 24, 2016, Santa Clara County Dog Team Inspector/Handler Marithza Hernandez with dog Hendrix and County Biologist Paulo Philippidis intercepted an unmarked and uncertified parcel from Florida at FedEx facility in Sunnyvale.

The parcel contained *Anona reticulata* (sugar apples) and *Dimocarpus longa* (longans) fruit. Upon inspection of the longans fruit, Inspector Philippidis found several live pests.

The pest samples were submitted to the PPD Laboratory for identification and identified as A-rated *Ceroplastes rubens* (red wax scale), Q-rated *Camponotus* sp., (carpenter ant), Q-rated *Monomorium* sp. (ant) and A-rated *Dysmicoccus grassi* (mealybug).

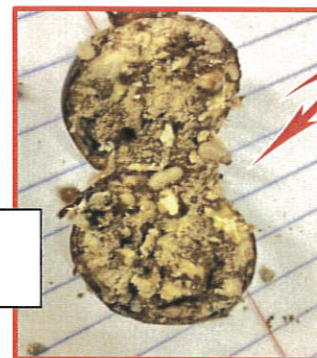


Sugar apples and longans from Florida intercepted by Hendrix; photo courtesy of Santa Clara County

### Chestnut Nuts with Bark Beetle Larvae

On September 30, 2016, Santa Clara County Dog Team Inspector/Handler Marithza Hernandez with dog Hendrix and County Biologist Paulo Philippidis intercepted an unmarked and uncertified package from Georgia at FedEx in San Jose.

The package contained *Castanea* spp. (chestnuts). Upon inspection of the chestnuts, live pests were found. Pest samples were submitted to the PPD Laboratory and identified as Q-rated Curculionidae (beetle) larvae.



Chestnut nuts from Georgia infested with bark beetle larvae; photo courtesy of Santa Clara County

**\*A-rated**, a pest of economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment.

**\*Q-rated**, an organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

**\*W-rated**, a species listed as a noxious weed on California Code of Regulation 4500.



*Stephen Brown 9/21/17*

Stephen Brown, ROAR  
California Department of Food and Agriculture  
Plant Health and Pest Prevention Services

Date

Beth Stone-Smith, ADODR  
United States Department of Agriculture  
APHIS, Plant Protection and Quarantine

Date